REMARKS/ARGUMENTS

Claims 30, 35, 36 and 38-58 are pending in this application. By this Amendment, Claims 30, 35, 36, 39 and 52-56 are amended, and Claims 31-34 and 37 are cancelled. Reconsideration in view of the above amendments and the following remarks is respectfully requested.

Claim 30 is amended to recite the features of original Claims 31-34 and 37. Claim 52 is amended to recite one of the steps previously recited in Claim 53. The other claims amended herein, Claims 35, 36, 39 and 53-56, are amended solely for clarity and to address an informality pointed out by the Examiner. No new matter is added.

FORMAL MATTERS

Claims 30-58 stand objected to because of informalities. In particular, the Examiner suggests changes to the language in Claims 30, 39 and 52. Regarding Claims 30 and 52, the recitations "a chamber temperature in the cooling chamber" were not changed as suggested by the Examiner, because the term was not previously recited in Claims 30 and 52, and Applicants also note that as an example of the claimed invention, a plurality of sensors, (e.g., sensor 8, sensor 9, sensor 10) may be located in the cooling chamber to measure local chamber temperatures in the cooling chamber. Therefore, Applicants respectfully submit that the claimed term "a chamber temperature in the cooling chamber" is proper.

Applicants note that Claim 39 is amended as suggested by the Examiner to obviate the informality. Withdrawal of the objection to the claims is respectfully requested.

35 U.S.C. §103 CLAIM REJECTIONS

Thomas and Boese

Claims 30-33, 37, 38, 41, 42, 44-49, 52, 53 and 56-58 stand rejected under 35 U.S.C. §103(a) over Thomas (U.S. Patent No. 6,389,828) in view of Boese (U.S. Patent No. 4,566,283). This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner asserts that Thomas teaches a liquid nitrogen supply line for supplying a cooling agent (refrigerant 509) to a cooling chamber (feed chamber 503), a first temperature sensor (550) for measuring a temperature in the cooling chamber, and a controller (553) for temperature control. The Examiner admits that Thomas fails to teach a heater with an adjustable first heating performance for heating the cooling agent supplied to the cooling chamber and a second temperature sensor for measuring an agent temperature of the cooling agent supplied to the cooling chamber and asserts that it would have been obvious to modify the cooling equipment of Thomas to include the heater and the temperature sensor as taught by Boese. Regarding Claim 32, the Examiner asserts that Thomas teaches an evaporator (heating element 547) with an adjustable second heating performance for evaporating the cooling agent present in the cooling agent storage container (column 6, lines 56-61) and that the Examiner has interpreted the second heating performance as the amount of heat that heater (547) puts out. However, Applicants respectfully submit that the combination of Thomas and Boese would not have resulted in an evaporator in the cooling agent storage container with an adjustable second heating performance for evaporating the cooling agent present in the cooling agent storage container, and a controller that adjusts the second heating performance as recited in independent Claims 30 and 52.

Regarding the heating element 547 of Thomas, the Examiner asserts that the heating element 547 has an adjustable second heating performance for evaporating the cooling agent present in the cooling agent storage. However, the cooling agent storage container asserted by the Examiner in Thomas is represented by liquid cryogen 43 in Fig. 1, and liquid cryogen 506 in Fig. 11. The heating element 547 taught in Thomas merely heats the interior of the feed chamber 503. The heating element 547 clearly does not heat the cooling agent present in the cooling agent storage container (i.e., liquid cryogen) 506 in Fig. 11 of Thomas. Therefore, Thomas does not disclose an evaporator in the cooling agent storage container with an adjustable second heating performance for evaporating the cooling agent present in the cooling agent storage container as recited in Claims 30 and 52. Boese also does not teach this feature missing in Thomas and a combination of references would not have resulted in the claimed features discussed above.

Further, regarding Boese, Applicants respectfully submit that while Boese teaches an evaporator 6 and an additional heater 9, Boese does not teach or suggest to control the heating performance of the evaporator 6. Moreover, Thomas does not teach this feature. Therefore, the combination of Thomas and Boese also do not teach a controller adjusting the second heating performance of an evaporator as recited in the claims. Accordingly, a combination of the references would also not have resulted in the controller discussed above and recited in independent Claims 30 and 52. Claims 38, 41, 42, 44-49, 53 and 56-58 each depend from one of the independent Claims 30 and 52 and also are believed to be non-obvious and allowable over the cited art. Withdrawal of the rejection of the claims under 35 U.S.C. §103(a) is respectfully requested.

Thomas, Boese and Ritter

Claims 34, 35 and 54 stand rejected under 35 U.S.C. §103(a) over Thomas, Boese and further in view of Ritter (U.S. Patent No. 3,245,248). This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner admits that Thomas and Boese fail to explicitly teach that several temperature sensors connected to the controller are provided for measuring the chamber temperature in the cooling chamber, and wherein the temperature sensors are arranged in a spatially distributed manner for measuring a special distribution of temperature, and asserts that it would have been obvious to modify the combination with the multiple temperature sensors as taught by Ritter in order to arrive at the claimed invention. However, Ritter does not teach the claimed features discussed above as missing in Thomas and Boese. In particular, Ritter does not teach an evaporator in the cooling agent storage container with an adjustable second heating performance for evaporating the cooling agent present in the cooling agent storage container and a controller adjusting the second heating performance of the evaporator as recited in Claims 30 and 52 from which Claims 34, 35 and 54 depend. Therefore, a combination of the references would not have resulted in the rejected claims. Withdrawal of the rejection of the claims under 35 U.S.C. §103(a) is respectfully requested.

Thomas, Boese, Ritter and Sitte

Claims 36 and 55 stand rejected under 35 U.S.C. §103(a) over Thomas, Boese, Ritter, and further in view of Sitte, et al. (U.S. Patent No. 6,178,757). This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner admits that Thomas as modified by Boese and Ritter fails to teach that at least one of the temperature sensors is a temperature-dependent electrical resistor, and asserts that it would have been obvious to modify the combined teachings with a temperature-dependent electrical resistor as taught by Sitte. However, Sitte does not teach the features discussed above that are missing in Thomas, Boese and Ritter. That its, Sitte does not teach an evaporator in the cooling agent storage container with an adjustable second heating performance for evaporating the cooling agent present in the cooling agent storage container, and a controller adjusting the second heating performance of the evaporator, as recited in independent Claims 30 and 52 from which Claims 36 and 55 depend. Accordingly, Claims 36 and 55 are also believed to be allowable over the prior art. Withdrawal of the rejection of the claims under 36 U.S.C. §103(a) is respectfully requested.

Thomas, Boese and Hammerstedt

Claims 39 stands rejected under 35 U.S.C. §103(a) over Thomas, Boese, and further in view of Hammerstedt, et al. (U.S. Patent No. 6,065,294). This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner admits that Thomas and Boese fails to teach that the first temperature sensor and the second temperature sensor are connected to storage equipment that stores the temperature courses, and asserts that it would have been obvious to combine the cooling equipment of Thomas as modified by Boese to include a memory as taught by Hammerstedt in order to arrive at the claimed features. However, Hammerstedt does not teach the claimed features discussed above that are missing in Thomas and Boese. That is, Hammerstedt does not teach an evaporator in the cooling agent storage container with an adjustable second heating

performance for evaporating the cooling agent present in the cooling agent storage container, and a controller adjusting the second heating performance of the evaporator, as recited in Claim 30 from which Claim 39 depends. Accordingly, Applicants respectfully submit that Claim 39 is also allowable over the cited art. Withdrawal of the rejection of Claim 39 under 35 U.S.C. §103(a) is respectfully requested.

Thomas, Boese and Lee

Claims 40 and 43 stand rejected under 35 U.S.C. §103(a) over Thomas, Boese, and further in view of Lee (U.S. Patent No. 5,335,503). This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner admits that Thomas and Boese fail to teach that the cooling agent supply line is adapted to empty via a diffuser into the cooling chamber and asserts that it would have been obvious to modify the cooling chamber of Thomas as modified by Boese to include the diffuser as taught by Lee to arrive at the claimed subject matter. The Examiner also asserts that it would have been obvious to modify the cooling equipment of Thomas and Boese to include a cooling agent supply line as taught by Lee to arrive at the subject matter of Claim 43. However, Lee does not teach the features discussed above as recited in Claim 30 and missing in Thomas and Boese. That is, Lee also does not teach an evaporator in the cooling agent storage container with an adjustable second heating performance for evaporating the cooling agent present in the cooling agent storage container, and a controller adjusting the second heating performance of the evaporator as recited in Claim 30 from which Claims 40 and 43 depend. Therefore, a combination of the references would not have arrived at the subject matter of Claim 30 or of the rejected Claims 40 and 43, which depend from Claim 30. Withdrawal of the rejection of Claims

40 and 43 under 35 U.S.C. §103(a) is respectfully requested.

Thomas, Boese and Bash

Claims 50 and 51 stand rejected under 35 U.S.C. §103(a) over Thomas, Boese, and further in view of Bash, et al. (U.S. Patent No. 7,031,154. This rejection is respectfully traversed for at least the reasons set forth below.

The Examiner admits that Thomas as modified by Boese fails to teach that the first temperature sensor is connected to a transponder that transmits a measured temperature in a wireless manner to the control device, and asserts that it would have been obvious to modify the cooling equipment of Thomas as modified by Boese to include the transmitting of temperature data wirelessly to a controller as taught by Bash to arrive at the claimed subject matter. However, Bash also does not teach the claimed subject matter of independent Claim 30 as discussed above that is missing in Thomas and Boese. In other words, Bash does not teach an evaporator in the cooling agent storage container with an adjustable second heating performance for evaporating the cooling agent present in the cooling agent storage container, and a controller adjusting the second heating performance of the evaporator as recited in Claim 30, from which Claims 50 and 51 depend. Accordingly, a combination of the references still would not have arrived at the claimed features and Applicants respectfully submit that the claims are non-obvious and allowable over the cited art. Withdrawal of the rejection of Claims 50 and 51 under 35 U.S.C. §103(a) is respectfully requested.

CONCLUSION

For at least the reasons set forth above, it is respectfully submitted that the above-identified application is in condition for allowance. Favorable reconsideration and prompt allowance of the claims are respectfully requested.

Should the Examiner believe that anything further is desirable in order to place the application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned attorney at the telephone number listed below.

Respectfully submitted,

CAESAR, RIVISE, BERNSTEIN,
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February 17, 2009

By _____
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Please charge or credit our Account No. 03-0075 as necessary to effect entry and/or ensure consideration of this submission.

CERTIFICATE OF MAILING/TRANSMISSION PURSUANT TO 37 CFR 1.8
I hereby certify that this correspondence and any attachments referenced therein is/are being mailed/transmitted to the USPTO by: (A) first class U.S. mail with sufficient postage (37 CFR § 1.1(a)); (B) facsimile (37 CFR § 1.6 (d)); or (C) EFS-Web (37 CFR § 1.6(a)(4)) on the date shown below.

Date: February 17, 2009 Signature: _____

Name: Michael J. Cornelison